Cattle Identification

D. Blakely

Factsheet

ORDER NO. 10-011 AGDEX 420/10 FEBRUARY 2010

This Factsheet describes two types of identification (ID) methods for cattle — regulated national ID and within-herd methods for ID — and is applicable to all types of cattle in Ontario — beef, dairy and veal.

BACKGROUND

Cattle identification, such as hot branding, has been used extensively in North America to show ownership of cattle. The purebred industry has used tattoos to establish unique animal identification. Other types of ID have been adopted for successful herd management for production, health and breeding decisions.

With the support of the Canadian cattle industry, regulation was enacted on January 1, 2001, requiring all cattle leaving the farm of origin to be identified with a tag bearing a unique identification number.

REGULATED NATIONAL ID

History and Purpose

To maintain beef export markets, the Canadian cattle industry proposed and received regulated approval to establish the Canadian Cattle Identification Program, run under the authority of the Canadian Cattle Identification Agency (CCIA). The purpose of the program is to contain and/or eradicate 16 reportable diseases through identification and trace-back of infected animals. The program has been put to the test many times with identified cases of bovine spongiform encephalopathy (BSE). Initially, Canadian export markets closed after the first case of BSE, but some markets reopened soon after, partially due to the trace-back system that was in place.

The program also integrates age verification with national ID. Age verification is a requirement for some export markets and is important, domestically, for determining when it is necessary to remove specified risk materials (SRMs) at slaughter. SRMs are tissues in a cattle carcass where BSE concentrates. By regulation, SRMs are removed from the carcasses of animals older than 30 months of age and disposed of separately. Some export countries have age limitations for Canadian cattle.

How Does It Work?

Since September 1, 2006, all cattle leaving their herd of origin must be tagged with a CCIA-approved RFID (radio frequency identification) tag (Figure 1). Tags are distributed through authorized dealers only and registered to the producer. Tags can be placed in either ear of the animal, except in Quebec where all cattle must be tagged in the animal's right ear.

Each RFID tag has a visual and electronically embedded 15-digit number (Figure 2). The first three numbers (124) indicate the code for Canada, and the remaining 12 digits are unique to each tag. This number forms the unique animal ID in a national database maintained by the CCIA. The RFID number is retired from the database once the animal is disposed of through slaughter, death or export. The Canadian Food Inspection Agency (CFIA) enforces the program by monitoring cattle for appropriate tags at public auction barns and slaughter facilities.

Figure 1. RFID tags and tag applicator.

Ministry of Agriculture, Food and Rural Affairs

Ontario

Figure 2. RFID tag.

Approvals of tags and tag readers by the CCIA are ongoing, and rules for the regulatory process may change. For up-to-date information, consult the CCIA website or contact their office:

Canadian Cattle Identification Agency (CCIA)
#300, 5735 - 7th St. N.E.
Calgary, Alberta T2E 8V3
Toll-Free: 1-877-909-2333 (BEEF)
Tel: 403-275-2083
Fax: 403-275-1668
Website: www.canadaid.com/

National Livestock Identification for Dairy (NLID)

The dairy industry in Canada has developed the National Livestock Identification for Dairy (NLID), which meets the requirements of national ID with additional rules to better suit their industry. The NLID uses a two-tag system that allows each animal's unique ID to be read visually and by an RFID reader. The tag set comes in four parts, along with matching labels for recording. The RFID tag consists of a microchip button and a small visual tag-back panel (Figure 3). The security tag has pre-printed front and back panels with matching number. It is recommended that the RFID button go in the animal's right ear to help avoid missing tags when using RFID readers.

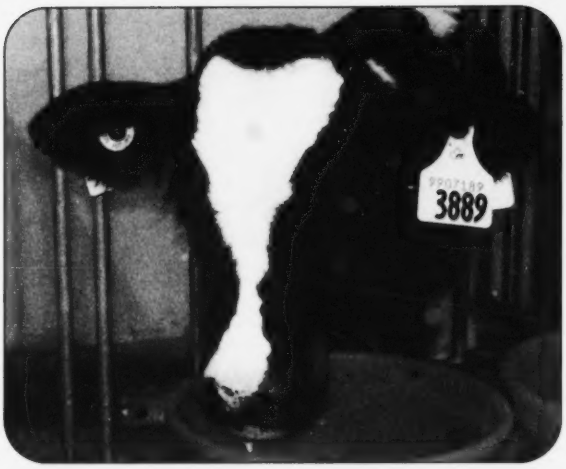

Figure 3. Tags used for the NLID system.

The NLID system is recognized in Canada, the U.S. and Mexico and meets the standards of the Dairy Farmers of Canada's Canadian Quality Milk program, the Canadian Food Inspection Agency, the CCIA and Canadian dairy breed registry herd books.

Registered and unregistered animals are tagged shortly after birth and a unique national identification number is assigned to each animal and recorded. Lost or broken tags must be replaced by a tag of the identical ID number. An NLID replacement tag will be reissued with the same original number and, if lost through normal wear and tear, be replaced free of charge.

Tags may be ordered directly from:

NLID
P.O. Box 2065
Brantford, ON N3T 5W5
Toll Free: 1-877-771-6543 (NLID)
Fax: 519-756-3502
Website: www.nlid.org

WITHIN-HERD METHODS FOR ID

Ear Tags

Ear tags are most commonly used for within-herd animal identification. Tags can be metal or plastic.

Metal Tags

Metal tags are self-piercing aluminum or steel ear tags that are inexpensive and easy to apply. Tags come in various colours and have a high retention rate. However, the numbers on the tags are small; animals must be restrained for the tag to be read, so metal tags are mainly used as back-up for lost plastic tags.

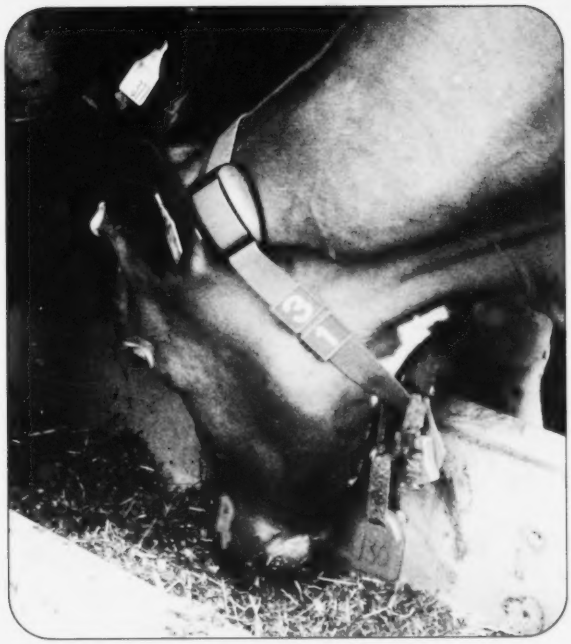

Figure 4. Neck tag with hanging transponder.

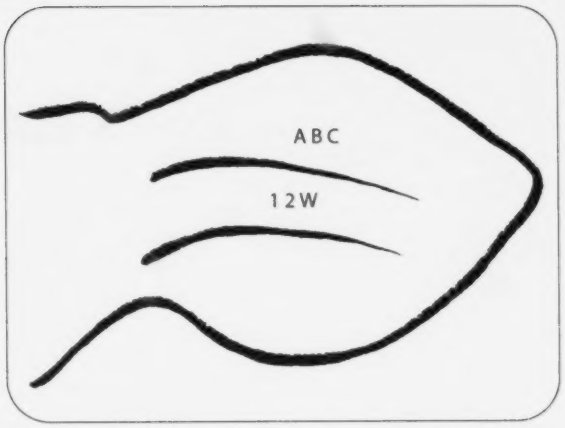

Figure 5. Example tattoo and ideal location on cattle's ear.

Plastic Tags

The biggest advantage of the plastic tags is that they are readable from a distance. There are numerous kinds of plastic/rubber tags on the market. They can be purchased in several different colours, with preprinted numbers or blank, allowing producers to mark them with their numbering system, the animal's breed, sire and dam, etc. Tags also vary in size and shape and are available as dual front-back tags. Buttons securing the tags can also be ordered with numbers.

Sellers of tags have applicators specifically designed for applying their tags. Proper ear location for applying tags is important for tag retention. Tag manufacturers provide directions for tagging and ideal tag placement in the ear for their tags.

Neck Tags

Neck tags and transponders are attached to a chain or strap around the neck of animals. They are commonly used in dairy cow management to provide electronic and visual identification within herd for management purposes. One of the early uses of RFID technology was to measure feed intake in beef cattle using transponders secured to chains around an animal's neck, however, today, few beef cattle producers use neck tags for within-herd management.

Neck-mounted transponders are commonly used for automated ID in milking parlours and robotic milking systems, as well as automated sort gates and feeders (Figure 4). They may also be combined with other features such as activity monitors for lameness or heat detection. There are some disadvantages to neck tags/transponders in that they can be proprietary and specific to a system, making them much more expensive to purchase and replace than RFID ear tags.

Brisket Tags

This type of tag is secured to the animal by piercing through the skin in the brisket area, allowing the tag portion to hang freely for easy reading. While brisket tags are less likely than dangle ear tags to rip out because the hide in the brisket area is tougher than softer ear tissue, they are seldom used with beef cattle and virtually never with dairy cattle.

Tattoos

Tattooing has been adopted by beef breed associations as a standard for identifying animals, as it is the most satisfactory method for permanent individual marking. When properly done, a tattoo is permanent, definite and not easily changed without disfiguring the animal. Breed associations have developed a system for tattooing that results in unique ID. Each herd is assigned a two-to-four- letter code, each year is assigned a letter and each animal within a year is given a number. For example, the tattoo ABC 12W (Figure 5) would identify, within herd ABC, animal 12, tagged in 2009. Contact individual breed associations to receive herd letters for animal registrations. Commercial cattle can also be tattooed, but the practice is not widespread due to the labour required. Some commercial beef producers have

adopted the same ID system to maintain unique ID for within- and across-herd performance evaluations without actually tattooing the animal.

To ensure readable, lasting tattoos, it is important to tattoo when animals are young and well restrained. Equipment can vary, so follow the instructions included with purchased applicators.

Branding

Branding is a method of permanent cattle ID, adopted mostly for proving ownership. There are two methods of branding: hot branding and freeze branding. Hot branding is used extensively in Western Canada but very little in Ontario. Freeze branding is rarely adopted in Ontario.

Hot Brands

Hot or fire brands are quickly applied and inexpensive. The hot iron destroys the hair follicles, resulting in a permanent, hair-free scar in the shape of the iron used. Good brands are achieved by properly heating irons, by clipping hair from the hide where the brand is to be applied and by keeping irons clean. Irons can be heated by wood fire, propane gas fire or electric attachments. Good brands require no more than 3–5 seconds of even contact with the hide. Branding irons are custom-made of iron, steel or stainless steel. The actual brand takes many shapes and forms. Most provinces require and have provided for the recording of brands, which are allotted for a fee, for a period of time. In Ontario, the Ontario Cattlemen's Association maintains a registry of brands in accordance with the *Livestock Branding Act,* 1981.

The disadvantage of hot branding is that it damages the value of the hide used for leather production. The practice is also receiving increased scrutiny as an animal welfare issue.

Freeze Brands

Freeze branding works quite differently from hot branding in that a very cold branding iron applied to the hide results in freezing the hair follicles. The result varies, depending on the duration of application. A shorter application time results in hair growing back white, and a longer application time results in no hair regrowth. Herds that have experimented with freeze branding and found it successful are usually herds of black-haired cattle. There are many steps required for successful freeze branding, so it is very important to closely follow the manufacturer's instructions.

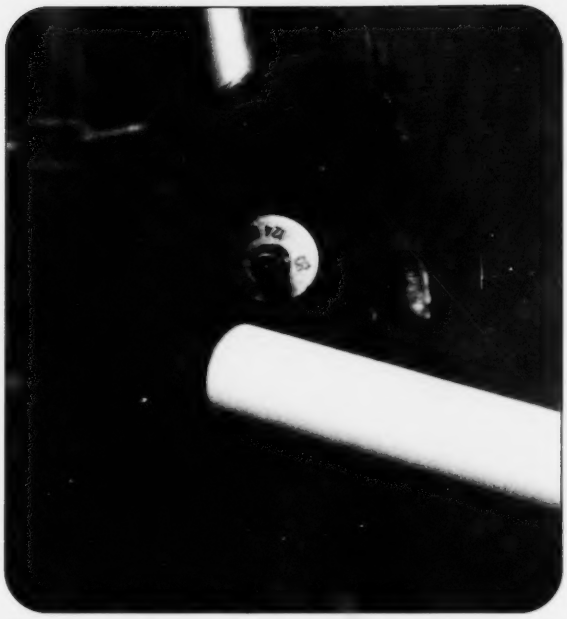

Figure 6. RFID handheld reader reading RFID tag.

Using RFID Within the Herd

The minimum requirement for regulated ID only requires RFID tags to be applied when leaving the herd of origin. Many operations choose to tag all cattle within the herd and are utilizing RFID technology within their production systems to improve herd management. Operations such as feedlots that purchase all their feeders with RFID tags have an ideal scenario for incorporating RFID within their production systems. Some producers are also combining other methods of ID along with RFID for management purposes, such as dangle ear tags with other herd numbers. These numbers are matched within the herd record system.

An effective RFID system within a herd helps producers by capturing the numbers electronically, thereby reducing labour costs and human error in entries. This information is then automatically transferred to a computer system with a compatible herd management software program. There are many different software packages available and more in development that a producer can use to best fit any particular operation or management need.

RFID numbers are captured using handheld (Figure 6) and panel readers that can read tags from 6–40 in. away. Handheld readers have a much shorter reading distance than panel readers. Readers can transfer

information from tags directly to computers through either a direct line or a wireless network. Handheld readers can store information within the unit for batch transfer to computer at a later time. Readers can also be connected to other electronic devices, such as an electronic weigh scale, so that ID can be automatically associated with production information. For example, a reader can store production information to allow chute-side analysis for average daily gain calculation as animals are weighed.

Another important function of RFID on-farm is recording animal movement for traceability. The ID numbers for animals ready to be shipped off the farm are transferred to the next owner easily through a printed report or a database that tracks animal movement. This can also be done via e-mail or through a central data system on the Internet. Using RFID and electronic systems transfers your information more efficiently.

SUMMARY

Over time, the purpose of cattle ID has evolved from proving ownership to identifying individuals within a herd to creating unique RFID numbers for all cattle in Canada. National ID is critical to maintaining national herd health status and protecting markets for Canadian cattle and products. As the technology advances, RFID will become an integral part of within-herd management systems and animal traceability from the farm to the beef product purchased by consumers.

This Factsheet was written by Don Blakely, Beef Quality Assurance Program Lead, OMAFRA, Elora.

FOR YOUR NOTES

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Agricultural Information Contact Centre:
1-877-424-1300
E-mail: ag.info.omafra@ontario.ca
Northern Ontario Regional Office:
1-800-461-6132

www.ontario.ca/omafra

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ISSN 1198-712X
Également disponible en français
(Commande n° 10-012)